

ABSTRACT OF THE INVENTION

Isolated nucleotide compositions and sequences are provided for *Arabidopsis thaliana* genes. The nucleic acid compositions find use in identifying homologous or related genes; in producing compositions that modulate the expression or function of  
5 its encoded protein, mapping functional regions of the protein; and in studying associated physiological pathways. The genetic sequences may also be used for the genetic manipulation of cells, particularly of plant cells. The encoded gene products and modified organisms are useful for screening of biologically active agents, *e.g.* fungicides, insecticides, *etc.*; for elucidating biochemical pathways; and the like.